

# **REPORT OF ACTIVITIES OF THE DEPARTMENT OF WATER RESOURCES**

**by**

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## **WATER CONDITIONS**

As of October 31, 2008 (the first month of Water Year 2009), statewide hydrologic conditions were as follows: precipitation, 60 percent of average to date; runoff, 55 percent of average to date; and reservoir storage, 70 percent of average for the date. Reservoir storage at the end of October 2007 was at 85 percent of average for the date. However, after two consecutive dry years, water levels in the State's major multipurpose reservoirs are now significantly below average (the lowest in 14 years). Sacramento River unimpaired runoff observed through October 31, 2008 was about 0.3 million acre-feet (MAF), which is about 65% of average. (On October 31, 2007, the observed Sacramento River unimpaired runoff through that date was about 0.5 MAF or about 89% of average.)

Water Year 2009 got off to a wet start with a storm in early October and additional storms at the end of the month, which continued into early November. For the month of October, the Northern Sierra 8-Station Index totaled 3.1 inches, or about 103% of average. On November 10, the 8-station Index accumulated a seasonal total of 8.4 inches, which is 165% of the seasonal average to date and 17% of an average Water Year (50.0 inches).

It will take a significantly above average rainfall season to alleviate current drought conditions. For the 8-Station Index, Water Year 2008 was the 15th driest year out of 88 years of record. The Spring of 2008 turned out to be extremely dry. The Water Year 2008 combined March through June total precipitation was only 3.4 inches, the driest on record (since 1921). The 2-year combined total precipitation for Water Years 2007 (37.2 inches) and 2008 (34.9 inches) was 72.1 inches, the ninth driest 2-year period on record.

January and early February of 2008 brought significant amounts of precipitation to California, including heavy snowfall in the mountains. California's large water supply reservoirs received some inflow from these storms; however, the amounts were muted because much of the precipitation fell as snow. Very dry hydrologic conditions prevail because precipitation was significantly below average during Water Year 2007 and the Spring of Water Year 2008. The Sacramento and San Joaquin Valley Water Year Type indexes were both classified as "Critical" during Water Year 2008.

Selected Cities Precipitation Accumulation as of 11/01/2008 (National Weather Service Water Year: July through June)					
City	Jul 1 to Date 2007 - 2008 (in inches)	% Avg	Jul 1 to Date 2006 - 2007 (in inches)	% Avg	% Avg Jul 1 to Jun 30 2007 - 2008
Eureka	2.01	52	6.57	168	5
Redding	1.99	65	4.28	141	5
Sacramento	2.36	167	1.12	79	13
San Francisco	1.15	82	2.13	152	5
Fresno	0.32	33	0.24	25	2
Bakersfield	0.20	37	0.41	76	3
Los Angeles	0.05	6	1.47	173	0
San Diego	0.18	22	0.42	52	1

Key Reservoir Storage (1,000 AF) as of 11/01/2008								
Reservoir	River	Storage	Avg Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	1,038	1,612	64	2,448	42	---	1,410
Shasta Lake	Sacramento	1,291	2,755	47	4,552	28	-2,579	3,261
Lake Oroville	Feather	1,026	2,165	47	3,538	29	-2,137	2,512
New Bullards Bar Res	Yuba	490	532	92	966	51	-306	476
Folsom Lake	American	234	495	47	977	24	-482	743
New Melones Res	Stanislaus	1,105	1,303	85	2,420	46	-865	1,315
Don Pedro Res	Tuolumne	1,027	1,297	79	2,030	51	-663	1,003
Lake McClure	Merced	257	449	57	1,025	25	-417	768
Millerton Lake	San Joaquin	169	189	89	520	32	-267	351
Pine Flat Res	Kings	123	351	35	1,000	12	-734	877
Isabella	Kern	111	158	70	568	20	-59	457
San Luis Res	(Offstream)	256	1,110	23	2,039	13	---	1,783

The latest National Weather Service Climate Prediction Center (CPC) long-range weather outlook for November 2008, issued October 31, 2008, forecasts above average precipitation for Northern California, below average precipitation for Southern California and average precipitation for the central portion of the State.

#### **FLOOD OPERATIONS BRANCH**

Joint State-Federal Operations Center Section (FOC) is involved in the following activities related to emergency preparedness and response:

- County OES Coordination Meetings:
  - The FOC Chief and staff, with NWS, Cindy Matthews, have visited approximately 10 County OES offices that have forecast points and/or are listed on the high water notification sheets. The purpose of the meetings have been to update the county OES offices with the changes in the FOC and to open lines of communication that may have been lost in recent years. Two additional meetings are planned for the week of November 3, 2008.
- Pre-Season Meetings:
  - The FOC staff is working closely with the Flood Operations Branch (FOB), the National Weather Service, the U.S. Corps of Engineers (USACE), the California Conservation Corps and the OES to conduct seven preseason meetings in Southern and Central California in which approximately 100+ people attended.

The FOC and FOB staff is working closely with the Eureka Flood Center (EFC), NWS and North Coast agencies on an additional pre-season meeting to be held on December 4, 2008, in Eureka.

- Pre-Season Training
  - The FOC training sessions continue through the end of flood season.
- Directory of Flood Officials:
  - The 2008 Directory of Flood Officials is completed and is available. Copies will be sent to the mailroom during the week of November 3<sup>rd</sup>, and sent out to our cooperating agencies across the State. Electronic copies are available upon request as well.
- Emergency Action Plan:
  - The FOC Staff continue to attend and participate in local reservoir and utility district Emergency Action Plans (EAP), face-to-face meetings, and tabletop exercises. The FOC staff plan to attend the following EAP functions:
    - Merced Irrigation District EAP Functional Exercise - November 5<sup>th</sup>
    - PG&E EAP, Face to Face Meeting - November 5<sup>th</sup>
    - Indian Valley & Cache Creek EAP Tabletop Exercise - November 14<sup>th</sup>
- FOC Preparedness:
  - The FOC staff will work closely with Decision Support Section staff to ensure that the computer and equipment in the FOC is prepared for the current flood season.
- Upper Jones Tract:
  - The FOC continues to monitor and coordinate with RD 2039, DSMO and USACE regarding the 2004 Upper Jones Closure site.
    - In June 2008, the FOC was notified that water could be heard flowing through the repair site.
      - This was verified by the FOC flood fight specialist.
      - A letter was sent to RD 2039 clarifying the Departments position and making short and long-term recommendations.
    - On October 23, 2008, RD 2039 sent a letter to the Department requesting assistance with the repairs site.
    - On October 30, 2008, the FOC was notified that cracking and sloughing was visible at the repair site.
      - This was confirmed by the FOC flood fight specialist.
      - DSMO and the USACE were notified and engaged.
    - On October 30, 2008, RD 2039 declared an emergency.
      - On October 31, 2008, RD 2039 hired the services of an engineering firm to evaluate their situation.

- The FOC will continue to monitor the 2004 Upper Jones Tract Closure site. The FOC is in the process of developing an action plan.
- Inyo County Mud/Debris Flow
  - On July 12, 2008 after a severe thunderstorm dropped approximately 6+ inches of rain on the local watershed, mud/debris flows hit the town of Independence, damaging approximately 35 residences, a Department of Fish and Game Fish Hatchery, Highway 395 culvert, and a number of Los Angeles Department of Water and Power diversions in North and South Oak Creek. The FOC continues to facilitate and coordinate conference calls and updates with the Governor's Office of Emergency Services (OES), local, state and federal agencies assisting with the recovery effort. The next conference call is scheduled for Wednesday, November 12<sup>th</sup>, 2008 at 1330 hours.
    - The United States Department of Forestry will work closely with Inyo County on potential grants to conduct remedial work in the 2007 burn areas on federal land.

### **Local Emergency Preparedness and Response Section**

Staff is working on an In-kind services agreement (Agreement) with the U.S. Army Corps of Engineers (Corps). The Agreement will allow DWR access to the Corps mapping of Delta specific areas. The Corps will provide the maps to DWR and we will post on our website and maintain them. The In-Kind agreement is now being reviewed by DGS.

Staff is working with David Ford's consulting group and has identified 3 cities for a pilot project to develop comprehensive flood preparedness, response, and recovery plans. The pilot communities' plans will serve as examples for other communities with similar flood hazards. The cities selected to participate in this study are: Arcata, Marysville, and San Bernardino.

Staff is working with GEI Consulting to identify each urban area in California subject to AB156 and verify/and or assist them in their compliance with the new law. This bill would subject the allocation of funds by the state for the upgrade of a project levee, if authorized after July 1, 2008. The requirements are that the levee must protect an urban area with a population of more than 1,000, and the local agency, city or county responsible for the operation and maintenance of the project levee enter into an agreement to adopt a safety plan that includes specified components, within 2 years.

Staff is currently working on an Emergency Action Plan for the Delta. This EAP focuses on DWR's roles, responsibilities, and actions in response to a 20 island delta levee failure due to an earthquake.

Staff along with GEI Consulting is working on developing a Delta Flood Emergency Preparedness and Response Plan (DWR Delta EPRP) that will address flood emergencies in the Delta. The content of the plan will include mitigation, preparedness, response, and recovery from flood emergencies. This document is scheduled for draft release in October 2009. This report is part of the DWR's FloodSAFE initiative and will enhance DWR's ability to respond to a catastrophic flood event in the Delta.

Staff along with GEI Consulting is in the process of preparing the Delta Multi-Agency Integrated Flood Emergency Operations Plan (Delta MIF-EOP). The Delta MIF-EOP will be an integration of local agency EOPs, the USACE Delta Levee EMRP, and the DWR Delta Flood EPRP. To the extent possible, this document will be prepared from plans and programs already existing and underway for the Delta. This document will make the roles and responsibilities and possible resources available to all emergency responders and stakeholders in the Delta clearer.

## **Flood System Analysis Section**

**Vulnerability Assessment.** The Flood System Analysis group is working with the Flood Project Integrity and Inspection Branch to develop a tool that will utilize all data being collected by DWR (related to the flood control system) and use a majority of that data to assess and rate the system to identify weak points. This effort will be an assessment of the flood control system, not a risk analysis. Staff continue to 1) do background research to identify all potential data and sources of information, 2) QA/QC levee distress information, 3) pull information from historic levee inspections, 4) enter data into the database, and 5) further refine "elements" and "sub-elements" to be rated. Initial development of the tool has begun starting with an Excel spreadsheet and eventually transition to an Oracle database. A five year workplan has been drafted (for review from management) and includes the following tasks as next steps: developing a framework document, collecting all data from DWR and other agencies, calibration of the model (or "tool"), creating a GIS interface, and management of the database.

**Static Inundation Maps.** The Flood System Analysis section is working with the Decision Support group to make local/county inundation map assets more accessible to the Hydrology and Flood Operations Office by obtaining existing local/county map assets for use in the integrated Flood Operations interface. Staff have been working on laying out the next steps and work has been assigned for the following tasks: compiling lists of population centers and size, compiling dam locations and sizes, creating a "top ten" list of dams that have the biggest impact to life and property based on population center. A partnership has been formed with Terrence Newsome of State Office of Homeland Security (OHS) Critical Infrastructure Protection for GIS resources to

address concerns for critical infrastructure. Two-way communication with OHS will enhance our ability to collect information quickly and efficiently in addition to fostering communication between agencies.

**State Emergency Assessment Team (SEAT) Reports.** The Flood System Analysis section has been assigned the lead role on coordinating efforts amongst the Flood Operations Branch's staff to collect key information out of the SEAT reports for the FOC. As of October 31, seven SEAT reports have been developed for all of the 2008 wildfires. These seven SEAT reports are the Basin Complex, Gap, Butte, Shasta, Summit, Piute, and Telegraph. In the event of an emergency within a burned watershed, the FOC will serve as the main point of contact for the State to respond to debris flows and the impacted areas. Key information being collected are 1) local/State/federal agency contacts to coordinate with, 2) overall summary information about the watershed and impacted areas, and 3) identify the risks to life, property, and infrastructure, and 4) GIS information. This information will be provided to the FOC to support them in a timely response if an emergency occurs. In addition, staff are monitoring the OES FTP website for any updated information on reports and/or maps/GIS files

### **Emergency Response and Security Section**

- Communication Plan
  - Initial work has begun to update DWR's Communication Plan for emergency response. Interviews have been held with representatives of the Telecommunications Office, Maintenance Yards, Field Divisions and District Offices as well as other individuals involved in emergency operations to assess current communication capabilities and expected communication processes during an emergency. This plan will clarify current processes and identify needs for additional communication resources to effectively engage in statewide emergency response activities.
- FOC Emergency Response Team Roster
  - The roster is being updated and reviewed to provide a current list of expected responders during an emergency response. This roster is used to identify people who need to be trained and participate in exercises.
- DWR Delta EOP Exercise
  - Planning continues for the December 10<sup>th</sup> DWR tabletop exercise to test the new Delta EOP. Objectives have been established and a participants list is being drafted. Once the participant list is finalized and approved, invitations will be sent to those individuals.

- Delta Early Implementation Activities
  - With the passage of SB2X1 and the identification of funding, work will now begin with DOE to assess additional sites, facilities and stockpile materials to be placed within the Delta.
- Flood Fight Methods Training
  - Classes continue to be taught throughout the state. This training provides flood fight knowledge and skills to local agencies.
- USGS Winter Storm Scenario
  - We are coordinating with the USGS to create a scenario to be used as part of a statewide exercise similar to the current Golden Guardian exercise. This scenario will take the form of a large winter storm. The expected timeline for this scenario will have it ready for Summer of 2010.
- Golden Guardian
  - The FOC will be participating in the Golden Guardian exercise by answering incoming participant calls and shadowing the DOC positions.

## **STATEWIDE FLOOD PLANNING OFFICE (SFPO)**

### **Schedule of Implementation for Flood Control System Status Report for the State Plan of Flood Control**

SFPO has prepared a draft Schedule of Implementation for preparation of the Flood Control System Status Report for the State Plan of Flood Control that is currently being reviewed by DWR. Staff will present the Schedule of Implementation to the Board for consideration and approval at the December 16, 2008 meeting.

### **Initiation of a Partner and Stakeholder Participation Strategy for Central Valley Flood Protection Plan**

The Partner and Stakeholder Participation Team will begin interviewing key partners and stakeholders (Federal, State, and local agencies; interest groups; and individuals) within the Central Valley beginning in mid-November to gather information on how and to what extent they want to be involved in development of the Central Valley Flood Protection Plan.



## **FLOOD MAINTENANCE OFFICE**

### **Sutter Bypass Maintenance**

Department of Water Resources (DWR) staff is coordinating with Central Valley Flood Protection Board (Board) staff that is responding to direction regarding Sutter Bypass maintenance given by the Board at its October 17, 2008, meeting as follows:

- DWR Flood Maintenance Office staff met with Board staff on October 24<sup>th</sup> to discuss and prioritize activities to be pursued related to vegetation management in the Sutter Bypass. The following steps were identified:
  - Board staff will take the lead in scheduling a meeting with the U.S. Army Corps of Engineers (Corps), DWR, and Board staff to discuss and reach consensus on design capacity for the bypass. This meeting is targeted for late November.
  - DWR staff will begin work to identify the owners of parcels in the five priority areas for vegetation management highlighted in DWR's presentation to the Board on October 17<sup>th</sup>, and review easement language.
- DWR Flood Maintenance Office and Division of Engineering Real Estate Branch staff met with Board staff on November 4, 2008, to review aerial maps of the bypass. This was done to show Real Estate Branch staff the boundaries of the priority areas in the Sutter Bypass where vegetation management activities will be focused first, to allow staff to start the research and develop the information on property ownership and easements.
- DWR Flood Maintenance Office staff will finalize the update to the 1-D hydraulic model of the Sutter Bypass (originally developed by the Corps). Currently this model is undergoing extensive Quality Assurance/Quality Control review. This will be completed by the end of 2008. This model will then be used to identify the maintenance necessary at each of the priority areas as well as for developing the overall vegetation management strategy for the Sutter Bypass.

DWR Flood Maintenance Office staff has reviewed the July 2008 draft Comprehensive Conservation Plan and Environmental Assessment for the Sacramento, Delevan, Colusa, and Sutter National Wildlife Refuges and is satisfied that the plan adequately addresses flood control issues for the Sutter Bypass as related to refuge activities.

## **FLOOD PROJECT MODIFICATIONS & PERMITS BRANCH**

### **Early Implementation Program (EIP)**

The draft EIP Guidelines were posted on the FloodSAFE website and staff held a public workshop in October. Staff received several comments on the draft guidelines, which are being addressed now. The current objective is to finalize the EIP Guideline and Proposal Solicitation Package by late November and open a 60-day application period for the second round of competitive funding from this program. There is \$163 million available for the current fiscal year. The finalized EIP Guidelines will also allow staff to move forward with approximately \$240 million in funding for Capital Outlay projects for the City of West Sacramento and SAFCA.

**Three Rivers Levee Improvement Authority (TRLIA)** – *TRLIA is the only EIP project that still has construction activities continuing. The work on the Segment 2 setback levee is continuing at least through November.*

*TRLIA entered into an agricultural lease on a waterside property between the new Segment 2 setback levee and the Feather River. TRLIA recently updated their Real Estate plan to include a provision for agricultural leases. DWR also ensured that TRLIA clearly understands that all leases require DWR approval, and that no agricultural leases longer than five years will be accepted. Leases exceeding five years restrict DWR's use of the land for future environmental mitigation.*

EIP program staff received comments from DWR's Division of Engineering on the technical review of data submitted by TRLIA in their request for \$10.2 million of State funding for Segment 1. A 600-foot long longitudinal crack developed along the landside levee slope in Segment 1, which is a concern for the upcoming flood season. *TRLIA has developed a work plan and an emergency flood fight plan, which is under review by DWR. DOE and TRLIA's consultants will continue to evaluate the crack movements until they have identified the cause. At that time, a permanent repair will be implemented. In the interim, additional monitoring equipment is being installed and the crack was covered with visqueen (plastic sheeting) before the rains began.*

**Sacramento Area Flood Control Agency (SAFCA)** – *All construction activities for this year has been completed. SAFCA is receiving \$194 million in funding for next year's project under EIP Capital Outlay. As soon as the EIP Guidelines are finalized, Program staff will work with SAFCA to initiate a funding agreement.*

**Reclamation District 2103 (RD 2103)** – RD 2103 has requested an increase in State funding for this project from \$14.7 to \$18.2 million to cover increase in costs for work identified in the Funding Agreement. An amendment to the

Funding Agreement will be needed; however, as the additional funding will be coming from the recently approved Fiscal Year 08/09 Budget, the amendment will not be finalized until the EIP Guidelines are finalized.

**Levee District No. 1 of Sutter County (LD1)** – *LD1 is finalizing their environmental compliance. Construction is scheduled to start next spring. LD1 is continuing real estate acquisitions over the winter.*

**West Sacramento Area Flood Control Agency (WSAFCA)** – WSAFCA has initiated work on a levee near the I Street Bridge, which is planned to be completed by November 22. *They have submitted a letter requesting credit for the current project against the local cost share of future work within the EIP. DWR has acknowledged their credit request. Program staff met with WSAFCA to ensure they understand the EIP requirements. As soon as the EIP Guidelines are finalized, Program staff will start working with WSAFCA to gather all the necessary documentation and initiate a funding agreement for this multi-year project.*

**Reclamation District 17 (RD 17)** – RD 17 received the needed approval from the CVFPB and the US Army Corps of Engineers last week to start the portion of the project planned for this year. *RD-17 requested credit for their current project against the local cost share of future work within the EIP. Program staff sent letter of acknowledgment to RD-17 in October in response to their request. A DWR review of the documentation provided indicates that their project is lacking a number of studies and reports outlined in the draft EIP Guidelines. A letter outlining such deficiencies, including the environmental documentation will be sent to RD-17 by the end of November.*

**Local Levee Urgent Repair Program**  
**Local Levee Evaluation Program**

*Staff received approval of the Local Levee Assistance Program Guidelines from DWR Director Lester Snow on October 4.*

*Staff began the process for awarding a \$5 million grant to Orange County for urgent repairs needed on San Juan Creek near San Juan Capistrano. A field inspection of the site was completed on November 5, 2008. Four other urgent repair applications were denied for being incomplete or not fully responsive to Program guidelines.*

*Staff completed technical review of the Local Levee Evaluation (LOLE) applications. Staff is recommending that nine of the 16 applications be awarded funding this fiscal year. Final funding selections will be made by DWR executive staff comprising the Consensus Team.*

The Branch is surveying local agencies to determine interest for a second funding solicitation of the LOLE program. Based on input received from the survey thus far, we plan to revise the LOLE Guidelines and go forward with a new solicitation by the end of the calendar year. The goal is to make the Program more responsive to local agency needs and maximize use of remaining funds.

## **FLOODPLAIN MANAGEMENT BRANCH**

### **PAL Status for Project Levees in Sacramento County:**

At the FEMA MAP Mod Round 2 outreach meeting held on October 27<sup>th</sup> 2008, Sacramento County was offered PAL agreements for the project levees protecting incorporated and un-incorporated areas within the county. DWR Floodplain Management staff have been participating in these FEMA Map Modernization coordination meetings. Pursuant to FEMA Levee Status Map/Table dated October 27<sup>th</sup> 2008, the following is a summary of PAL status for the project levees in Sacramento County:

- Project levee reach from Sutterville Rd. to Freeport Bridge protecting the City of Sacramento from the Sacramento River has been recently certified by the USACE and accredited by FEMA. No PAL agreement is necessary for this levee reach. This levee reach is maintained by DWR's MA 9 district.
- Project levee reach from Freeport Bridge to Hood protecting the County of Sacramento from the Sacramento River has been offered PAL status by FEMA. DWR has 90 days to sign this PAL agreement with the County of Sacramento for this levee reach. This levee reach is maintained by DWR's MA 9 district.
- Project levees protecting the City of Sacramento from American River do not require PAL agreements because they are recently certified by USACE and have been accredited by FEMA

### **PAL Status for Project Levees in Butte County:**

At the FEMA MAP Mod Round 2 outreach meeting held on October 29<sup>th</sup> 2008, Butte County and local communities were offered PAL agreements for the project levees protecting incorporated and un-incorporated areas within the county.

DWR's Floodplain Management Branch will work with Butte County and local communities on the proposed PAL agreements for the project levees in maintenance districts MA 5, MA 7, and MA13.

## **PAL Status for Project Levees in Yolo County:**

At the FEMA MAP Mod Round 2 outreach meeting held on June 25<sup>th</sup> 2008, Yolo County and local communities was offered PAL agreements for the project levees protecting incorporated and un-incorporated areas within the county. According to FEMA, as of October 6<sup>th</sup> 2008, no signed PAL agreement forms have been submitted to FEMA by the communities in Yolo County. However, on September 23<sup>rd</sup> 2008, FEMA granted the City of West Sacramento a 30-day extension (until October 23<sup>rd</sup>, 2008) to evaluate alternative PAL proposals presented by the City of West Sacramento. Recently, FEMA extended additional 30 days (until November 23<sup>rd</sup>, 2008) to the City of West Sacramento to submit the PAL agreement.

## **LEVEE REPAIRS BRANCH**

### **Sacramento River Bank Protection Project (SRBPP)**

Repairs to three sites (American River 0.3L and 2.8L, and Sacramento River 53.5R) have been completed. Other five sites (Sacramento River 49.7L, 52.3L, and 177.8R, Cache Slough 21.8R, and Steamboat Slough 16.6R) are scheduled for completion by Nov 30, 2008.

A total of 34 sites are under evaluation for the next two years repairs. The Corps and DWR are working together to finalize sites for Year 2009 repairs and are aiming at about 9,000 lineal feet of bank protection out of the remaining authorized 15,650 lineal feet left in this program. It may not be possible to use full 15,650 lineal feet authorization due to property rights and encroachment issues.

### **San Joaquin River Flood Protection Project**

Structural work requiring placement of rock is complete on three critical sites (San Joaquin River Mile 42.3R, Paradise Cut Levee Mile 3.8L and Mormon Slough Levee Mile 11.8R). Landscaping work is in progress. DWR has paid \$153,000 to U.S. Fish and Wildlife for the Paradise Cut off-site mitigation for Brush Rabbit impacts during the 2006 flood fight emergency repairs.

DWR has completed priority ranking of sites for next year's construction based on criticality of damage and justification for repairs on the basis of Benefit Cost Analysis. Six sites are eligible for repairs in 2009.

## **2006 Public Law (PL) 84-99 Rehabilitation Assistance Program**

Repairs in 2009 have achieved planned construction goals and 127 flood damaged sites have been repaired this year. Work on Project Information Reports (PIR) and detailed engineering and environmental designs for the remaining 34 sites are in progress. 17 sites in RD 150 are being postponed to next year as RD has not kept up with its maintenance work and is ineligible under PL84-99 Program. If RD 150 meets maintenance requirements by spring 2009, these sites will be included in next year's program

Construction of a three mile long slurry wall on the Chowchilla Bypass Left Bank in the Lower San Joaquin Levee District has been completed. In addition, work on seepage berms on three sites on the right bank is in progress. DWR has paid \$4.97 million out of a total of \$19.0 million being spent by the Corps for repairs to Lower San Joaquin District sites.

## **URBAN LEVEE EVALUATIONS**

The Urban Levee Evaluations Branch was created to perform geotechnical levee evaluations on about 350 miles of urban levees. An urban levee is defined as protecting at least 10,000 people. The geotechnical levee evaluations will focus on the urban project levees in geographic areas of Reclamation District (RD) 17, RD 404, Natomas, West Sacramento, Marysville, Woodland, Davis, Stockton, MA9, American River, Sacramento, the Sutter Basin, and RD 784. This program is in the process of expanding to other areas within the Sacramento and San Joaquin Flood Control Projects with the Bond funding.

The purpose of these evaluations is to assist in developing a levee certification program based on geotechnical data, provide consistent formats for data (and associated data exchange), and provide an evaluation of the levee system based on geotechnical data. This evaluation will be conducted with the goal of providing 200-year level of protection in urban areas and the design profile level of protection in rural areas using the U.S. Army Corps of Engineers (Corps) underseepage criteria.

### **General**

1. The Levee Evaluations Branch continues to work closely with RD 17, Natomas (SAFCA and RD 1000), Three Rivers, West Sacramento, and others within the Department and the Corps to review issues concerning early implementation projects.
2. At the request of Mr. Gary Hester, the Levee Evaluations Branch supported the Central Valley Flood Protection Board in assessing a crack in segment 1 of the Feather River levee across from Star Bend. This crack was first observed after slurry wall construction was completed. At this time,

winterization measures and additional explorations and characterization of this area was recommended.

3. Weekly coordination meetings with the Corps continue so that subsurface explorations plans are approved in advance of work and efforts are not duplicated.
4. Issues of strength for use in design and an erosion toolbox are being presented to technical working groups and will be finalized in November 2008. Because of need for closure on these issues, reports are being delayed so as to not have to repeat analysis efforts after these findings. This is being communicated to local stakeholders.

The work performed in October 2008 is broken into three geographic urban levee areas of North, Central, and South is as follows:

### **North Urban**

1. Sutter Basin: The Corps finished reviewing the Draft Phase 1 Geotechnical Evaluation Report (P1GER) and URS will incorporate all review comments from the various agencies. The report will be finalized in December 2008. The Phase 1 Geotechnical Data Report (P1GDR) will be finalized and distributed to the local stakeholders in November 2008. Additional supplemental explorations that commenced on July 21, 2008 will continue through early November 2008.
2. Marysville: Work on the draft Supplemental Geotechnical Data Report (SGDR) is continuing and should be submitted to DWR as a Draft in November 2008.
3. RD784: The draft Supplemental Subsurface Investigation Work Plan was delivered by URS to DWR and is undergoing an internal QA/QC process and Corps review. DWR at the request of the Central Valley Flood Protection Board will monitor GEI/TRLIA mitigation measures associated with the slope failure in Segment 1 along the Feather River.

### **Central Urban**

1. West Sacramento: The draft SGDR for West Sacramento is underway and is expected to be delivered to DWR in November 2008.
2. Sacramento River: The final Technical Review Memorandum (TRM) for the east bank levees of Sacramento River (between and American River and Freeport) was delivered to DWR in September 2008. The final P1GDR for Sacramento River is expected to be delivered to DWR in November 2008. The draft P1GER for Sacramento River has been delivered to DWR during

the month of October 2008. The draft P1GER report is currently undergoing an internal DWR QA/QC process and Corps review.

3. NEMDC: The final P1GDR report for NEMDC-East levees is expected to be delivered to DWR in November 2008. A draft P1GER for NEMDC-East levees is currently underway and will incorporate field investigations from SAFCA's exploration plan prior to its expected release to DWR in November 2008. The final P1GDR report for NEMDC-West levees is expected to be delivered to DWR in November 2008. A draft P1GER for NEMDC-West levees is currently underway and will incorporate field investigations from SAFCA's exploration plan prior to its expected release to DWR in November 2008.
4. Natomas North, West, and South (NWS): The draft TRM for Natomas NWS, which encompasses previous studies completed on behalf of SAFCA, USACE, and DWR, was delivered to DWR in September 2008. This report is currently undergoing an internal DWR QA/QC process and Corps review.
5. American River: A draft SGDR for the American River levees is underway and is expected to be delivered to DWR in November 2008. The final TRM for the American River levees is expected to be delivered to DWR in November 2008.
6. Davis: DWR received the final P1GDR report in October 2008. Seepage and liquefaction analysis of the field data collected from the subsurface exploration is nearly complete for the draft P1GER.
7. Woodland: The draft P1GDR was delivered in October 2008. Seepage and liquefaction analysis has commenced for the draft P1GER.

### **South Urban**

1. SJAFCA: The Draft P1GER for the Calaveras River Drainage was delivered to DWR in August 2008. This report is undergoing an internal DWR QA/QC process and USACE review.
2. SJAFCA: The Draft P1GER for the Bear Creek Drainage was delivered to DWR in September 2008. This report is undergoing an internal DWR QA/QC process and USACE review.
3. RD 404: The Draft P1GER for RD 404 was delivered to DWR in September 2008. This report is undergoing DWR QA/QC process and USACE review.
4. RD 17: The Final P1GDR for RD-17 was delivered to DWR in October 2008. Supplemental field explorations and laboratory testing were completed in RD 17. The Draft SGDR for RD 17 is currently being prepared.



5. Greater Stockton Area Urban Non-Project Levees: In early October 2008, DWR met with local stakeholders and SJAFCFA in Stockton for the second monthly coordination meeting and briefing of planned activities. DWR is coordinating with the local stakeholders and SJAFCFA the work plan that is being developed to commence the subsurface investigations along selected reaches of the urban non-project levees in November 2008.

## **NON-URBAN LEVEE EVALUATIONS**

The Non-urban Levee Evaluations Branch was created to perform geotechnical levee evaluations on about 1,250 miles of non-urban State/Federal project levees. A non-urban levee is defined as protecting 10,000 or less people. The geotechnical levee evaluations will focus on the non-urban State/Federal project levees in the Sacramento River and the San Joaquin River flood control systems. This project is in the process of expanding to include the appurtenant non-project levees; these are non-project levees that provide protection to the same levee systems that non-urban project levees do.

The purpose of these evaluations is to support the Central Valley Flood Protection Plan (CVFPP) and other flood management related programs by determining if these levees meet defined geotechnical criteria and, if appropriate, identify remedial measure(s) to meet those criteria. This evaluation will be conducted with the goal of providing the design profile level of protection in non-urban areas using the DWR and the Corps levee design criteria.

### **Activities in October 2008:**

1. The Non-urban Levee Evaluation project purpose and needs was vetted.
2. The Non-urban Levee Evaluation draft Project Scoping Document was developed.
3. Project management plan development continued.
4. Reconnaissance-level geomorphic studies 25% complete report was delivered for the Sacramento and San Joaquin River flood control systems.
5. Data collection coordination and strategizing for the levee evaluation, the Central Valley Floodplain Evaluation and Delineation (CVFED) and the Central Valley Flood Protection Plan (CVFPP) continued.
6. NULE and CVFED outreach plan was finalized; Regional Coordinators initiated contacting some of the local agencies.